UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/461,778	12/15/1999	ALBERT H. TADDIKEN	49581-P020US	4254

29053 7590 03/29/2005

DALLAS OFFICE OF FULBRIGHT & JAWORSKI L.L.P.
2200 ROSS AVENUE
SUITE 2800
DALLAS, TX 75201-2784

EXAMINER	
ELALLAM, AHMED	
ART UNIT	**PAPER NUMBER**
2662	

DATE MAILED: 03/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/461,778	TADDIKEN, ALBERT H.	
	Examiner	Art Unit	
	AHMED ELALLAM	2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 December 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23,25-39 and 41-48* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23,25-39 and 41-48* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The following is a response to the RCA filed on 12/22/2004.

Claims 1-23, 25-39,41-48 are pending. All pending claims are rejected.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 17 and 34 are rejected under 35 U.S.C. 102(a) as being anticipated by Knutson 5. (WO 99/31811), hereinafter referred to as Knutson.

Referring to claim 17, Knutson discloses a method for processing cable telephony signals (a TDMA multi-line system (see abstract and claim figure 2)), said method comprising receiving a time division multiplexed (TDM) RF cable signal from a cable input (a TDMA signal is received (see abstract and claim figure 2)), said TDM RF signal comprising frames having time slots (the timeslots are in a TDMA epoch (see abstract and claim figure 2)), pulsing on a fast acquisition time tuner for an allocated time slot in each of said frames (the handsets power on during their respective time slots (see abstract and claim figure 2), said tuner for processing said TDM RF signal (the handset processes the signals during its respective timeslot (see abstract and claim

figure 2)) and pulsing off said tuner for substantially the remainder of time in each of said frames, said frames having a frame period (the handset powers off for the remainder of the TDMA epoch and the frames that the timeslots travel in, inherently, have an associated period (see abstract and claim figure 2)). The acquisition time is less than one-fourth of the frame period, the frame period is equal to the time between the beginning of a first allocated time slot and the beginning of a second time slot), (Knutson discloses that the handsets have a receive period equal to 2 milliseconds, which is less that one quarter of the TDMA epoch period of 48 milliseconds (see page 5 and figure 2)).

Referring to claim 34, Knutson discloses a method for processing cable telephony signals (a TDMA multi-line system (see abstract and claim figure 2)), said method comprising receiving a time division multiplexed (TDM) RF cable signal from a cable input (a TDMA signal is received (see abstract and claim figure 2)), said TDM RF signal comprising frames having time slots (the timeslots are in a TDMA epoch (see abstract and claim figure 2)), pulsing on a fast acquisition time tuner for an allocated time slot in each of said frames (the handsets power on during their respective time slots (see abstract and claim figure 2), said tuner for processing said TDM RF signal (the handset processes the signals during its respective timeslot (see abstract and claim figure 2)) and pulsing off said tuner for substantially the remainder of time in each of said frames, said frames having a frame period (the handset powers off for the remainder of the TDMA epoch and the frames that the timeslots travel in, inherently, have an associated period (see abstract and claim figure 2)). Knutson also discloses

that the handsets have a receive period equal to 2 milliseconds, which is less that one quarter of the TDMA epoch period of 48 milliseconds (see page 5 and figure 2). Examiner interpreted the receive period of the mobile being able to receive data in a period equal to 2 milliseconds as being corresponding to the claimed "tuner operable to lock on the TDM RF signal in a time equal to or less than a quarter of a time period between consecutive allocated time slot, because the mobile ability to receive in the specified time (2 milliseconds) can't receive unless it is locked to the received signal.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-4,10-16, 46 and 48, are rejected under 35 U.S.C. 103(a) as being unpatentable over Beveridge (WO 99/34541), hereinafter referred to as Beveridge, in view of Knutson.

Referring to claims 1 and 10, Beveridge discloses a cable telephony network interface unit (a network interface unit (see figures 3 and 4 and claim 1)), said NIU comprising a radio frequency (RF) cable input for receiving RF telephony signals (the NIU receives cable audio/video signals as well as telephony signals (see figures 3 and 4 and claim 1), and a voice telephony device compatible output for providing an output

from said tuner to a telephony device (the NIU provides voice telephony signals to the subscribers telephone (see figures 3 and 4 and claim 1). Beveridge does not disclose that the telephony signals comprise a time division multiplexed (TDM) or TDMA RF signal having a frame rate or pulsing on and off the tuner during an acquisition time that is less that half the frame rate. However, Knutson discloses a system comprising TDM RF signals (a wireless system that utilizes a TDMA protocol (see abstract) " having a frame rate (the TDMA packets are transmitted during a TDM epoch (see figure 2)) and an acquisition time of less than half the frame rate (the handsets of the TDMA system receives data during its respective time slots and the time associated with the time slots are less than the time of a TDMA epoch (see abstract and figure 2)) whereby a tuner is pulsed on for signal acquisitions and pulsed off between signal acquisitions (the handset is powered on to receive packets during its respective time slot and is otherwise powered off (see abstract and figure 2). It would have been obvious to one skilled in the art at the time of the invention to implement these features into the Beveridge system, because such features would make the Beveridge system more efficient, flexible, power efficient and reliable. Specifically, TDM signals provide better line utilization and bandwidth efficiency since a dedicated line and its bandwidth do not have to be allocated for every connection, thus allowing multiple telephones to communicate simultaneously over the same line. This would make the Beveridge system operate more efficiently and with increased flexibility. Furthermore, pulsing the tuner on during acquisition periods and pulsing off for the rest of the acquisition period of a received frame would reduce power consumption of the NIU. This is particularly

important in Beveridge because as Beveridge mentions when the local power supply fails, the back-up battery with the help of a trickle circuit from the cable network are used to power the NIU for lifeline telephony support (see claim 1), therefore reducing power usage by the NIU will help save the life of the battery and make Beveridge more power efficient and reliable. Note, the TDM signals inherently have associated rates and periods.

Referring to claims 2 and 3, Beveridge discloses the system discussed above. Beveridge does not disclose that the acquisition time is less than one-fourth of said frame period or less than about 5 milliseconds. However, Knutson discloses that the handsets have a receive period equal to 2 milliseconds, which is less that one quarter of the TDMA epoch period of 48 milliseconds and less that 5 milliseconds (see page 5 and figure 2). Having such low acquisition times will allow for less power consumption since the tuner does not have to be on for a long amount of time. Therefore, it would have been obvious to one skilled in the art at the time of the invention to implement this feature into Beveridge because doing so would reduce power consumption.

Referring to claim 4, Beveridge discloses the system discussed above. Beveridge does not disclose that the acquisition time is less than about 1 millisecond. However, having such a low acquisition time will allow for less power consumption since the tuner does not have to be on for a long amount of time. Therefore, it would have been obvious to one skilled in the art at the time of the invention to implement this feature into Beveridge because doing so would reduce power consumption.

Referring to claim 11, Beveridge discloses the system discussed above. Beveridge does not disclose that the TDM RF signal is further multiplexed with code division multiple access (CDMA). However, it would have been obvious to one skilled in the art at the time of the invention to transport CDMA signals in Beveridge because CDMA signals provide increased capacity, interference protection and efficient spectrum, all making the Lifeline support in Beveridge more reliable.

Referring to claim 12, Beveridge discloses the system discussed above. Beveridge does not disclose that most of said tuner's components are located on a single integrated circuit. However, it would have been obvious to one skilled in the art at the time of the invention implement the components of the tuner in Beveridge on a single IC because doing so would make the tuner more compact and reduce the cost of producing such tuners.

Referring to claims 13-16, Beveridge discloses the system discussed above. Furthermore, Beveridge discloses that the RF telephony signals further comprise a continuous wave CW signal, and said tuner is capable of processing said CW signal (the tuner receives and processes a continuous audio/video signals that corresponds to cable television and voice telephony signals (see Figure 3 and abstract));

said NIU receives electrical power via said cable input when said tuner is processing said TDM RF signal (when the local AC power fails the NIU receives power from the cable network through a trickle circuit (see abstract and claim 1 and Figure 3)) and receives electrical power from a different source when processing said CW signal (the NIU CTSP is plugged into the local AC power supply when it receives television

and cable telephony signals and receives power from the cable network when the AC power is interrupted (see abstract and figure 3));

a demodulator interposed between said voice telephony device compatible output and said tuner (the NIU CTSP is used for demodulating any voice calls (see Figure 1));

said demodulator demodulates according to a first modulation type when said NIU receives electrical power from an external source (the NIU CTSP receives cable signals when being powered from a conventional AC power source (see claim 1)), and switches demodulating according to a second modulation type when said NIU receives power via said cable input (when AC power is lost the NTU receives a power signal from the cable network (see claim 1).

Referring to claim 46, Beveridge discloses a method for providing lifeline support in cable telephony (a method of providing voice call support in a cable system when power interrupted at the customer premises (see figures 3 and 4 and claim 1)), said method comprising receiving electrical power from an external power source (an NIU receives power from a conventional AC power source (see figures 3 and 4 and claim 1)), receiving a continuous wave (CW) RF cable signal from a cable input (the NIU receives cable television and voice call signals (see figures 3 and 4 and claim 1)), processing said CW RF signal with an RF tuner (a tuner is used to tune to specific cable channels (see figures 3 and 4 and claim 1)), losing power from said external power source (power to the NIU is disrupted (see figures 3 and 4 and claim 1)), switching to

receive said electrical power from said cable input (the cable system sends back-up power to the customer premises (see figures 3 and 4 and claim 1)).

Beveridge does not disclose receiving time division multiplexed (TDMI RF signals, in place of continuous signals, having a frame rate or pulsing on and off the tuner during an allocated time slot. However, Knutson discloses a system comprising TDM RF signals (a wireless system that utilizes a TDMA protocol (see abstract)) having a frame rate (the TDMA packets are transmitted during a TDM epoch (see Figure 2)) and pulsing on and of the receiver during allocated time slots (the handsets of the TDMA system receives data during its respective time slots and the time associated with the time slots are less than the time of a TDMA epoch (see abstract and figure 2)) whereby a tuner is pulsed on during the time slots and pulsed off for substantially the remainder of the frame (the handset is powered on to receive packets during its respective time slot and is otherwise powered off (see abstract and figure 2)). It would have been obvious to one skilled in the art at the time of the invention to implement these features into the Beveridge system, because such features would make the Beveridge system more efficient, flexible, power efficient and reliable. Specifically, TDM signals provide better line utilization and bandwidth efficiency since a dedicated line and its bandwidth do not have to be allocated for every connection, thus allowing multiple telephones to communicate simultaneously over the same line. This would make the Beveridge system operate more efficiently and with increased flexibility. Furthermore, pulsing the tuner on during acquisition periods and pulsing off for the rest of the acquisition period of a received frame would reduce power consumption of the receiver.

This is particularly important in Beveridge because as Beveridge mentions when the local power supply fails, the back-up battery with the help of a trickle circuit from the cable network are used to power the NIU for lifeline telephony support (see claim 1), therefore reducing power usage by the NIU will help save the life of the battery and make Beveridge' s system more power efficient and reliable.

Referring to claim 48, Beveridge discloses the system discussed above. Furthermore, Beveridge discloses that the CW RF signal comprises video, data and voice information (the customer receives audio and video television signals as well as voice telephony signals from the cable network (see figure 2 and page 2).

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Beveridge in view of Knutson and further in view of Denny (USPN 5,920,233), hereafter referred to as Denny.

Referring to claim 5, Beveridge discloses the system discussed above. Beveridge does not disclose that the tuner comprises fractional-N generated local oscillator reference frequency signals. However, Denny discloses a system wherein a tuner uses a fractional-N reference oscillator signal (see column 4 line 64 and column 5)). It would have been obvious to use such a feature in the Beveridge system because such a signal will provide the tuner to lock onto proper incoming signal, thus making sure the signals of Beveridge are properly synchronized. This is particularly important in Beveridge because the signals in Beveridge are audio, video and voice signal and are

required to maintain proper timing synchronization to properly be understood by the users of the system.

7. Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beveridge in view of Knutson and further in view of Birleson (USPN 5,847,612), hereafter referred to as Birleson.

Referring to claims 6-9, Beveridge discloses the system discussed above. Beveridge does not disclose generating said tuner's local oscillator reference frequency signals with multiple phase locked loops (PLLs), wherein said PLLS comprise a wide loop bandwidth and wherein said loop bandwidth is greater than said reference frequencies or greater than about 1KHZ. However, Birleson discloses a system wherein a tuner comprises multiple PLLS generating the tuner's local oscillator reference frequencies (see figures 2 and 3 and columns 5 and 6)), wherein the PLLs are wide loop bandwidth greater than the reference frequencies and greater than 1 KHz (see figures 2 and 3 and columns 5 and 6)). It would have been obvious to one skilled in the art at the time of the invention to implement these features in the Beveridge system because, as Birleson points out in column 5 lines 47 and 48, such features would enable the tuner to get good close-in phase noise characteristics. Furthermore, proper tuning operations are important because signals in Beveridge are audio, video and voice signal and are required to maintain proper timing to properly be understood by the users of the system, especially systems that implement Lifeline functionality, as Beveridge does.

8. Claim 47 is rejected under 35 U.S.C. 103(a) as being unpatentable over Beveridge in view of Knutson and further in view of Bridger et al. (USPN 6,272,209), hereinafter referred to as Bridger.

Referring to claim 47, Beveridge discloses the system discussed above. Beveridge does not disclose that sending an alert signal to a cable plant after said loss of power from said external source, to inform said cable plant of said loss of power. However, Bridger discloses a system wherein Lifeline support is provided to a DSL modem in case of power loss at a customers premises, wherein when the power is lost the customers equipment sends a 'last gasp' message to the DSL Line Terminating equipment (LTE), which alerts the network that the customer is experiencing a power outage (see abstract and column 6). It would have been obvious to one skilled in the art at the time of the invention to implement this feature in Beveridge for many reasons. For instance, sending a message to the cable head-end in Beveridge that the external power has been lost will be quicker than the head-end having to detect such a condition on its own. Also, such a message would give a definite indication to the head-end that the power was lost, instead of the head-end having to determine if the power was lost which may not be a foolproof method. In both cases this makes the Beveridge system more reliable, which is very important in Beveridge because the cable system is to provide Lifeline support to the customer in case of emergency.

9. Claims 17-19, 21-23, 25, 26, 32-36 and 38-39, are rejected under 35 U.S.C. 103(a) as being unpatentable over Gerszberg et al. (USPN 6,546,016), hereafter referred to as Gerszberg, in view of Knutson

Referring to claims 17, 22, 34 and 39 Gerszberg discloses a method for processing cable telephony signals (a cable telephony system (see column 28 lines 30-65)), said method comprising receiving an RF cable signal from a cable input (a voice calls are received over the cable network (see column 27 lines 38-53)), pulsing on a fast acquisition time tuner for an allocated time slot (the cable NIU awakens only periodically to receive incoming data (see column 32 lines 18-54)), said tuner for processing said RF signal (the NIU processes the incoming RF cable signal (see columns 27-32)) and pulsing off said tuner for substantially the remainder of time (the NIU goes into a sleep cycle when its not awake awaiting incoming data (see column 32 lines 18-54)). Gerszberg does not disclose that the RF signals are TDM signal having time slots and an associated frame rate and an acquisition time is less than one-fourth of the frame rate. However, Knutson discloses a system comprising TDM RF signals (a wireless system that utilizes a TDMA protocol (see abstract)) having a frame rate (the TDMA packets are transmitted during a TDM epoch (see figure 2)) and that the handsets have a receive period equal to 2 milliseconds, which is less that one quarter of the TDMA epoch period of 48 milliseconds (see page 5 and figure 2)). Having such low acquisition times will allow for less power consumption since the tuner does not have to be on for a long amount of time. It would have been obvious to one skilled in the art at the time of the invention to implement these features into the Gerszberg system, because such

features would make the Gerszberg system more bandwidth efficient and reduce power consumption and save energy. Specifically, TDM signals provide better line utilization and bandwidth efficiency since a dedicated line and its bandwidth do not have to be allocated for every connection, thus allowing multiple telephones or end stations to communicate simultaneously over the same line. Thus, using a TDM protocol, such as that in Knutson, would make the Gerszberg system more efficient in bandwidth and power consumption.

Referring to claims 18, 19, 35 and 36 Gerszberg discloses the system discussed above. Furthermore, Gerszberg discloses receiving an RF signal is received during a loss of power from an external source and receiving power from said cable input during said loss of power from said external source (the cable network sends power and voice signals through the coaxial cable during power outages at the customer premises (see columns 28 and 29)).

Referring to claims 21 and 38, Gerszberg discloses the system discussed above. Furthermore, Gerszberg discloses receiving and processing a continuous wave (CW) RF cable signal before said loss of power (the customer premises receives cable telephony and cable television signals before any power outage (see columns 27 and 28)). Gerszberg does not disclose switching to said receiving of said TDM RF cable signal after said loss of power. However, for the same reason stated above in the rejection of claim 17, it would have been obvious to one skilled in the art at the time of the invention to implement a TDM system, such as that taught by Knutson in the Gerszberg system.

Referring to claim 23, Gerszberg discloses the system discussed above. Gerszberg does not disclose that the TDM RF signal is further multiplexed using code division multiple access (CDMA). However, It would have been obvious to one skilled in the art at the time of the invention to transport CDMA signals in Gerszberg because CDMA signals provide increased capacity, interference protection and efficient spectrum, all making the Lifeline support of Gerszberg more reliable.

Referring to claim 25, Gerszberg discloses the system discussed above. Gerszberg does not disclose that the acquisition time is less than one-fourth of said frame rate or less than about 5 milliseconds. However, Knutson discloses that the handsets have a receive period equal to 2 milliseconds, which is less that one quarter of the TDMA epoch period of 48 milliseconds and less that 5 milliseconds (see page 5 and figure 2)). Having such low acquisition times will allow for less power consumption since the tuner does not have to be on for a long amount of time. Therefore, it would have been obvious to one skilled in the art at the time of the invention to implement this feature into Gerszberg because doing so would reduce power consumption and save energy.

Referring to claim 26, Gerszberg discloses the system discussed above. Gerszberg does not disclose that the acquisition time is less than about 1 millisecond. However, having such a low acquisition time will allow for less power consumption since the tuner does not have to be on for a long amount of time. Therefore, it would have been obvious to one skilled in the art at the time of the invention to implement this

feature into Gerszberg because doing so would f educe reduce power consumption and save energy.

Referring to claims 32 and 33, Gerszberg discloses the system discussed above. Furthermore, Gerszberg discloses demodulating an output signal from said tuner (signals output and input to the tuner at the customer premises are inherently modulated and demodulated so that they can be carried to other elements of the network (see figure 1)); and

using a first modulation type when electrical power is received from an external source (the NIU receives power for the cable modem when there is no power outage at the customers premises (see column 32)), and switching to a second modulation type when electrical power is received via said cable input (only voice bandwidth (4MHz) is supplied after a power outage at the customer premises (see column 32)).

10. Claims 20 and 37, are rejected under 35 U.S.C. 103(a) as being unpatentable over Gerszberg in view of knutson and further in view of Bridger et al, (USPN 6,272,209), hereafter referred to as Bridger.

Referring to claims 20 and 37, Gerszberg discloses the system discussed above. Gerszberg does not disclose that sending an alert signal to a cable plant after said loss of power from said external source, to inform said cable plant of said loss of power. However, Bridger discloses a system wherein Lifeline support is provided to a DSL modem in case of power loss at a customers premises, wherein when the power is lost the customers equipment sends a 'last gasp' message to the DSL Line Terminating

equipment (LTE), which alerts the network that the customer is experiencing a power outage (see abstract and column 6). It would have been obvious to one skilled in the art at the time of the invention to implement this feature in Gerszberg for many reasons. For instance, sending a message to the cable head-end in Gerszberg that the external power has been lost will be quicker than the head-end having to detect such a condition on its own. Also, such a message would give a definite indication to the head-end that the power was lost, instead of the head-end having to determine if the power was lost which may not be a foolproof method. In both cases this makes the Gerszberg system more reliable, which is very important in Gerszberg because the cable system is to provide Lifeline support to the Customer in case of emergency.

11. Claims 27 and 41, are rejected under 35 U.S.C. 103(a) as being unpatentable over Gerszberg in view of Knutson and further in view of Denny

Referring to claims 27 and 41, Gerszberg discloses the system discussed above. Gerszberg does not disclose that the tuner comprises fractional-N generated local oscillator reference frequency signals. However, Denny discloses a system wherein a tuner uses a fractional-N reference oscillator signal (see column 4 line 64 and column 5)). It would have been obvious to use such a feature in the Gerszberg system because such a signal will provide the tuner to lock onto the proper incoming signal, thus making sure the signals of Gerszberg are properly synchronized. This is particularly important in Gerszberg because the signals in Gerszberg are audio, video and voice signal and are required to maintain proper timing to properly be understood by the users of the system.

12. Claims 28-31 and 42-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gerszberg in view of Knutson and further in view of Birleson.

Referring to claims 28-31 and 42-45, Gerszberg discloses the system discussed above. Gerszberg does not disclose generating said tuner's local oscillator reference frequencies with multiple phase locked loops (PLLs), wherein said PLLS comprise a wide loop bandwidth and wherein said loop bandwidth is greater than said reference frequencies or greater than about 1KHZ. However, Birleson discloses a system wherein a tuner comprises multiple PLLS generating the tuner's local oscillator reference frequencies (see figures 2 and 3 and columns 5 and 6)), wherein the PLLS are wide loop bandwidth greater than the reference frequencies and greater than 1 KHz (see figures 2 and 3 and columns 5 and 6)). It would have been obvious to one skilled in the art at the time of the invention to implement these features in the Gerszberg system because, as Birleson points out in column 5 lines 47 and 48, such features would enable the tuner to get good close-in phase noise characteristics. Furthermore, proper tuning operations are important because signals in Gerszberg are audio, video and voice signal and are required to maintain proper timing to properly be understood by the users of the system, especially systems that implement Lifeline functionality, as Gerszberg does.

Response to Arguments

13. Applicant's arguments filed 12 /20/2004 have been fully considered but they are not persuasive.

Rejections under 35 USC § 112:

All the r*ejections under 35 USC § 112* have been withdrawn in view of Applicant comments and or evidence.

102 Rejections:

Applicant argue that Knutson does not disclose the limitation *"wherein said acquisition time is less than one-fourth of said frame period, and wherein said frame period is equal to the time between the beginning of a first allocated time slot and the beginning of a second allocated time slot".* Applicant also requested that the Examiner to *interpret the phrase "acquisition time" according to the mandates to M.P.E.P § 2111.01, which states that the words of a claim must be given their ordinary meaning unless they are defined in the specification.* Applicant points to the passage at page 8, line 19, of the present specification that defines *"acquisition time"* as *" time to lock on to the desired frequency.".* Examiner respectfully traverses Applicant argument, it is to be noted that *claims are to be give their broadest reasonable interpretation in light of the supporting disclosure. In re Morris, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim are not read into the claim. > E-Pass Techs., Inc. v. 3Com Corp., 343 F.3d 1364, 1369, 67 USPQ2d 1947, 1950 (Fed. Cir. 2003) (claims must be interpreted "in view of the specification" without importing limitations from the specification into the claims*

unnecessarily).< In re Prater, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969). Given the above, and in contrast to Applicant argument Examiner assert that the epoch of Knutson is the same as the claimed frame having time slots, and the epoch is divided into a plurality of time slots in which a mobile is allocated a time slot for receiving. See for example Knutson pages 6, lines 1-23. The passage relied upon in traversing Knutson teaching that of a particular embodiment (page 10, lines 9-16), and represent only one embodiment of many others. In addition, in TDMA mobiles are allocated at least one specific time slot in which the mobile wakes up for signal acquisition, such a wake up acquisition time is well known in the art, and Knutson. must have possession of the claimed "acquisition time", because that is needed for the mobile to be able to listen and receive incoming signal or signals during the allocated receiving time slot for each frame period. Such well-known feature is evidenced by Applicant statement on page 7, lines 25-27 and page 8, lines 1-13 of the specification.

With reference to claim 34, Applicant argues that Knutson fails to address the limitation of claim 34 as amended, the limitation of " the fast acquisition time tuner is operable to lock on the TDM RF signal in time equal to or less than a quarter of a time period between consecutive time slot" is interpreted by the Examiner as equivalent to " the mobile receives signal in the allocated time slot of the frame", as indicated in the claim above, handsets have a receive period equal to 2 milliseconds, which is less that one quarter of the TDMA epoch period of 48 milliseconds (see page 5 and figure 2). It is inherent that the mobile locks to the received signal in the allocated time slot of

Knutson, because that is need for the mobile to receive information. Again "*Limitations appearing in the specification but not recited in the claim are not read into the claim*".

103 rejections:

On page 14 of the Remarks, Applicant alleges that a *prima facie* case have not being established With reference to claims 1-4, 10-16, 46 and 48. Applicant also stated that claims 15 and 16 are cancelled. However claims 15 and 16 are still pending in the presented claims.

Claim1: Applicant argues that the combination of Beveridge and Knutson does not teach or suggest the feature of "*tuner has an acquisition time of less than half of said frame period*". Applicant further stated that the limitation "acquisition time" must be interpreted in accordance with the mandates to M.P.E.P § 2111.01. Examiner disagrees, because limitations appearing in the specification but not recited in the claim are not read into the claim, *In re Prater.* On page 14, paragraph 3 regarding claim 1, the Applicant argues that Knutson does not disclose an acquisition time. The Examiner respectfully disagrees. Knutson clearly states that "each handset powers on its transceiver during its respective data and audio packet time slots as necessary to synchronize with the base unit. . ." (see abstract of Knutson). Therefore, clearly Knutson discloses an "acquisition time" given the most reasonable interpretation of the claim limitations. Since Knutson discloses the "acquisition time", it would have been obvious to combine Knutson with Beveridge as indicated above in the rejection and demonstrated in the response to Argument presented in the final action.

103 rejections:

Beveridge in view of Knutson:

With regard to claim 46, before getting into Applicant argument, Examiner likes to point to the claimed subject matter that Applicant argues that neither references of Beveridge and Knutson teaches separately or in combination, the disputed limitation are "processing CW RF signal with an RF tuner" and "receiving a TDM RF telephony signal in place of said CW RF signal". The specification doesn't givers any details about the CW RF cable signal, except as indicated in the summary, page 4, lines 24-27 and page 5, lines 1-4. The specification recites: "during normal operation (i.e. no power outage), ...the NIU may operate in Continuous Wave ('CW") mode", page 12, lines 22-25. Therefore the CW RF signal is understood as data received in case of normal operation, in addition the claimed "processing CW RF signal with an RF tuner" is the "process of receiving data by receiver (i.e. NIU). Therefore the disputed claimed limitations are respectively understood as being the corresponding limitations of Beveridge, namely "the NIU receives cable television and voice call signals (see figures 3 and 4 and claim 1)" and "(a tuner is used to tune to specific cable channels (see figures 3 and 4 and claim 1)". Examiner concludes that, given a broad interpretation of the claimed limitations, Beveridge teaches at least these limitations.

Applicant in response to Examiner argument, misinterpreted the combination of Beveridge with that of Knutson, Applicant argues, on page 15 and 16, that Beveridge teaches switching power supplies, not signals, and to combine the two references would either produce: 1) a system that uses a TDMA signal as power, and would be, therefore

inoperable, or 2) a system that inputs power directly to the data inputs of a cable tuner, which would burn out the tuner and be inoperable. In response to Applicant argument, the switching to the power source upon interruption in the main power source does not burn the tuner of Beveridge, and assuming the alleged argument is true, then why the cable input of claim 46 does not get burned when receiving electrical power from the "said cable input" given that the cable input receives also the CW RF signal!!. In brief Examiner notes that a person of skill in the art would avoid burning the tuner in case of power supply in combining the TDMA of Knutson with that of Beveridge. It had been demonstrated in the previous office action that Beveridge system uses a trickle circuit that receives the power signal along with the regular CATV signals at the tuner. This trickle circuit would prevent the circuit from burning out. Since Beveridge discloses receiving a signal in place of the "CW RF signal" and switching to receive power from a cable input when there is AC power loss. A person of skill in the art would recognize the benefit of implementing the TDMA method of Knutson since it would reduces the consumption of power in case of main power loss/or interruption. The Beveridge/Knutson system would have the advantage indicated in the rejections above.

Examiner notes that the recited limitations in claim 46, of "receiving electrical power from an external source", "receiving a continuous wave (CW) RF cable signal from a cable input", "losing power from said external power source" and "switching to receive said electric power from said cable input" cast a doubt to the nature of the CW signal, it is apparent that the CW signal is a power signal, and if that is the case then a distinction or a relationship must be shown or demonstrated between the external power source

and the CW signal, and the source of the CW signal. However, if that is not the case, what is the source and the nature of the CW signal if other than a power signal, and the meaning of processing the CW signal by the tuner as further recited in the claim, in both cases Applicant is respectfully requested to explain the source, the nature of CW signal if it is a power signal or not. Such lack of description or demonstration as to a clear and precise meaning of the CW signal may be ground for 112 1st paragraph rejections in the next office action, because Examiner is having some ambiguity relating to the CW signal and the processing of the CW signal by the tuner in addition to the cable input that receives the CW in one instance and electrical power in another.

Beveridge in view of Knutson and further in view of Denny:

Applicant argues that since claim 5 depends from claim 1, and Beveridge in view of Knutson fails to teach the limitations of claim 1, the Denny reference does not cure the deficiencies of Beveridge in view of Knutson. Examiner disagrees, as demonstrated above Beveridge in view of Knutson discloses all the limitations of claim 1, and therefore Denny in combination with Beveridge and Knutson do provide a prima facie case with regard to claim 5.

Beveridge in view of Knutson and further in view of Birleson:

Applicant argues that since claims 6-9 depends directly or indirectly from independent claim 1, and Beveridge in view of Knutson fails to teach the limitations of claim 1, the Birleson reference does not cure the deficiencies of Beveridge in view of Knutson. Examiner disagrees, as demonstrated above Beveridge in view of Knutson

discloses all the limitations of claim 1, and therefore Birleson in combination with Beveridge and Knutson do provide a prima facie case with regard to claims 6-9.

Beveridge in view of Knutson and further in view of Bridger:

Applicant argues that since claim 47 depends from claim 46, and Beveridge in view of Knutson fails to teach the limitations of claim 46, the Denny reference does not cure the deficiencies of Beveridge in view of Knutson. Examiner disagrees, as demonstrated above Beveridge in view of Knutson discloses all the limitations of claim 46, and therefore Bridger in combination with Beveridge and Knutson do provide a prima facie case with regard to claim 47.

Gerszberg in view of Knutson:

Applicant argues that claim 17 as amended recites, in part, *"wherein said acquisition time is less than one-fourth of said frame period, and wherein said frame period is equal to the time between the beginning of a first allocated time slot and the beginning of a second allocated time slot.".*

Applicant has similar argument with reference to claim 17, claim 17 as amended is rejected under Knutson alone, and under Gerszberg in view of Knutson. In the later case, Applicant has similar argument that Knutson does not disclose the above particular limitation. Examiner disagrees for the same reason indicated above with reference to 102 rejections.

With reference to claim 34, Applicant argue that Gerszberg in view of Knutson does not disclose especially the feature of locking on a "desired frequency", the argument with reference to the "desired frequency" is not related to the claimed subject matter.

Applicant argues that Knutson fails to address the limitation of claim 34 as amended, the limitation of " the fast acquisition time tuner is operable to lock on the TDM RF signal in time equal to or less than a quarter of a time period between consecutive time slot" is interpreted by the Examiner as equivalent to " the mobile receives signal in the allocated time slot of the frame", as indicated in the claim above, handsets have a receive period equal to 2 milliseconds, which is less that one quarter of the TDMA epoch period of 48 milliseconds (see page 5 and figure 2). It is inherent that the mobile locks to the received signal in the allocated time slot of Knutson, because that is need for the mobile to receive information. Examiner also interpreted the receive period of the mobile being able to receive data in a period equal to 2 milliseconds as being corresponding to the claimed "tuner operable to lock on the TDM RF signal in a time equal to or less than a quarter of a time period between consecutive allocated time slot, because the mobile ability to receive in the specified time (2 milliseconds) can't receive unless it is locked to the received signal. Again "*Limitations appearing in the specification but not recited in the claim are not read into the claim".*

Claims 20, 37, 27 41, 28-31 and 42-45:

Applicant argues that the rejections over Gerszberg in view of Knutson and further in view of Bridger as applied to claims 20 and 37, Gerszberg in view of Knutson and further in view of Denny as applied to claims 27 and 41, and Gerszberg in view of Knutson and further in view of Birleson as applied to claims 28-31 and 42-45, are improper, because Gerszberg in view of Knutson do not disclose the limitations of the parent claims of the dependent claims 20, 37, 27 41, 28-31 and 42-45, and therefore

Bridger , Denny, and Birleson in combination with Gerszberg/Knutson do not provide a prima facie case of obviousness.

Examiner respectfully disagrees, Examiner, given the rejections above had shown that claims 20, 37, 27 41, 28-31 and 42-45 are unpatentable over the respective prior art of Bridger, Denny, and Birleson, believing that the parent claims are unpatentable over Gerszberg in view of Knutson as indicated in the rejections above.

Examiner believes that, given the most reasonable interpretation of the claim limitations, the rejection above is proper.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: O'Neill et al, US (5,729,824); Edens et al, US 6,611,537); Quigley et al, US (6,785,564).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AHMED ELALLAM whose telephone number is (571) 272-3097. The examiner can normally be reached on 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kizou Hassan can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AHMED ELALLAM
Examiner
Art Unit 2662
March 18, 2005

JOHN PEZZLO
PRIMARY EXAMINER